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10/827,142	04/19/2004	Trudy L. Benjamin	200309559-1	2313

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EXAMINER	
MARTIN, LAURA E	
ART UNIT	**PAPER NUMBER**
2853	

DATE MAILED: 03/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

EK

Office Action Summary	Application No.	Applicant(s)	
	10/827,142	BENJAMIN, TRUDY L.	
	Examiner	Art Unit	
	Laura E. Martin	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-64* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-64* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/14/05, 10/29/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 12 and 13 objected to because of the following informalities: both claims repeat the word "substantially". Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-12, 22-26, 29, 30, 33-41, 43, 48, 49, 51, 52, 54, 63, and 64 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayasaki (EP 1128324).

As per claim 1, Hayasaki teaches a fluid ejection device comprising: firing cells including a first group of firing cells and a second group of firing cells [0058]; and control circuitry configured to respond to the control signal to selectively initiate a first sequence adapted to enable the first group of firing cells for activation and a second sequence adapted to enable the second group of firing cells for activation [0059].

As per claim 2, Hayasaki teaches the control circuitry comprises a first address generator and a second address generator (figure 3, elements 4' and 8' make up one generator, thus there are two generators [0060]).

As per claim 3, Hayasaki teaches the first address generator is configured to respond to the control signal to initiate the first sequence and the second address generator is configured to respond to the control signal to initiate the second sequence [0060].

As per claim 4, Hayasaki teaches the first address generator comprising first group circuitry configured to respond to the control signal to initiate the first sequence and second group circuitry configured to respond to the control signal to initiate the second sequence ([0060] 3 bit latch initiates first sequence and 44 bit latch initiates second sequence).

As per claim 5, Hayasaki teaches the control circuitry comprising a first address generator configured to respond to the control signal to initiate the first sequence and the second sequence ([0060] 3 bit latch initiates first sequence and 44 bit latch initiates second sequence, both are within the first address generator).

As per claim 6, Hayasaki teaches the firing cells further comprising a third group of firing cells and a fourth group of firing cells and the control circuitry further comprises a second address generator configured to respond to the control signal to selectively initiate a third sequence adapted to enable the third group of firing cells for activation and a fourth sequence adapted to enable the fourth group of firing cells for activation

([0060] the second side 3 bit latch and 44 bit latch send signals to groups of cell on the second side of the circuit).

As per claim 7, Hayasaki teaches signal lines configured to receive a series of timing pulses, wherein the control circuitry is configured to respond to the series of timing pulses and control signal to provide the first sequence and the second sequence [0064-0067].

As per claim 8, Hayasaki teaches the control circuitry is configured to receive one group of timing pulses from the series of timing pulses to provide the first sequence and a second group of timing pulses from the series of timing pulses to provide the second sequence [0064-0067].

As per claim 9 Hayasaki teaches a fluid ejection device comprising: firing cells [0058] including a first bank of firing cells and a second bank of firing cells; and a first address generator configured to respond to control signals to selectively provide a first sequence of first address signals adapted to enable the first bank of firing cells for activation and a second sequence of second address signals adapted to enable the second bank of firing cells for activation, wherein the second sequence of address signals is selectively provided independent of the first sequence of address signals (figure 3, elements 4' and 8' make up one generator, thus there are two generators [0060] the 3 bit latch provides one set of signals and the 44 bit latch provides a second set of signals).

As per claim 10, Hayasaki teaches one of the control signals comprise control pulses and the first address generator is configured to respond to the control pulses to initiate the first sequence and to initiate the second sequence [0060].

As per claim 11, Hayasaki teaches the control signals comprise a series of timing pulses and the first address generator is configured to respond to the series of timing pulses to provide the first address signals and the second address signals [0064-0067].

As per claim 12, Hayasaki teaches the control signals comprise control pulses and a series of timing pulses and the first address generator is configured to initiate the first sequence and to initiate the second sequence in response to receiving control pulses substantially coincident with timing pulses in the series of timing pulses [0064-0066].

As per claim 22, Hayasaki teaches the firing cells comprise a third bank of firing cells and a fourth bank of firing cells and the fluid ejection device further comprises: a second address generator (second row [0058]) configured to respond to the control signals to selectively provide a third sequence of third address signals adapted to enable the third bank of firing cells for activation (3 bit latch – figure 3, element 4') and a fourth sequence of fourth address signals adapted to enable the fourth bank of firing cells for activation, wherein the third sequence of address signals is selectively provided independent of the fourth sequence of address signals (44 bit latch – figure 3, element 8').

As per claim 23, Hayasaki teaches a fluid ejection device comprising: firing cells including a first group of fluid ejection elements and a second group of fluid ejection elements (figure 3, element 1; [0059]); an address generator including (figure 3, elements 4' and 8'): first circuitry configured to receive a first group of the timing pulses from a series of timing pulses and generate a first set of address signals in response to the timing pulses (figure 3, element 4'; [0064-0068]), wherein the first set of address signals is adapted to enable the first group of fluid ejection elements; and second bank circuitry configured to receive a second group of the timing pulses from the series of timing pulses and generate a second set of address signals in response to the received timing pulses (figure 3, element 4'; [0064-0068]), wherein the second set of address signals is adapted to enable the second group of fluid ejection elements.

As per claim 24, Hayasaki teaches a first shift register configured to provide first output signals (figure 3, element 4').

As per claim 25, Hayasaki teaches a second shift register configured to provide second output signals (figure 3, element 8').

As per claim 26, Hayasaki teaches a first logic circuit configured to provide the first set of address signals based on the first output signals (figure 3, element 3) and the second circuitry comprises a second logic circuit configured to provide the second set of address signals based on the second output signals (figure 3, element 3; there are multiple logic circuits).

As per claim 29, Hayasaki teaches a first logic circuit configured to provide the first set of address signals based on the first output signals (figure 3, element 3).

As per claim 30, Hayasaki teaches a first logic circuit configured to provide the first set of address signals in response to the received timing pulses (figure 3, element 3).

As per claim 33, Hayasaki teaches the first circuitry is a first bank generator and the second circuitry is a second bank generator (figure 4, elements Block 1 and Block 2).

As per claim 34, Hayasaki teaches the address generator is electrically coupled with both the first group of fluid ejection elements and the second group of fluid ejection elements, wherein the first circuitry is coupled to the first group of fluid ejection elements and not the second group of fluid ejection elements, and wherein the second circuitry is coupled to the first group of fluid ejection elements and not the second group of fluid ejection elements (figure 3, S/R; resistors 1-44 and 45-89); there are two sides, each independent circuitry).

As per claim 35, Hayasaki teaches a fluid ejection device comprising: firing cells including a first bank of firing cells and a second bank of firing cells (figure 3, element 1; [0058-0059]); a control line configured to receive a control signal [0064-0066]; and a first address control circuit configured to respond to the control signal to selectively initiate a first sequence of first address signals adapted to enable the first bank of firing cells for activation (figure 3, element 4') and a second sequence of second address

signals adapted to enable the second bank of firing cells for activation (figure 3, element 8').

As per claim 36, Hayasaki teaches the firing cells comprise a third bank of firing cells and a fourth bank of firing cells and wherein the fluid ejection device comprises [0058-0059]: a second address control circuit configured to respond to the control signal (second row [0058]) to selectively initiate a third sequence of third address signals adapted to enable the third bank of firing cells for activation (3 bit latch – figure 3, element 4') and a fourth sequence of fourth address signals adapted to enable the fourth bank of firing cells for activation (44 bit latch – figure 3, element 8').

As per claim 37, Hayasaki teaches the firing cells are organized into fire groups of firing cells, wherein a first subset of the fire groups comprises the first bank of firing cells and the second bank of firing cells and a second subset of the fire groups comprises the third bank of firing cells and the fourth bank of firing cells [0059].

As per claim 38, Hayasaki teaches the firing cells are organized into six fire groups of firing cells, wherein three of the six fire groups comprise the first bank of firing cells and the second bank of firing cells ([0059]; 8 blocks x 2 rows).

As per claim 39, Hayasaki teaches signal lines configured to receive a series of timing pulses, wherein the first address control circuit is configured to receive a first group of the timing pulses from the series of timing pulses and generate the first sequence of first address signals in response to the received first group of timing pulses and to receive a second group of the timing pulses from the series of timing pulses and

generate the second sequence of second address signals in response to the received second group of timing pulses [0064-0068].

As per claim 40, Hayasaki teaches a fluid ejection device comprising: a first plurality of means for ejecting fluid (figure 3, element 1); a second plurality of means for ejecting fluid [0059]; and means for responding to a control signal to selectively initiate a first sequence for enabling the first plurality of means for ejecting fluid and a second sequence for enabling the second plurality of means for ejecting fluid [0064-0066].

As per claim 41, Hayasaki teaches a third plurality of means for ejecting fluid [0059] and a fourth plurality of means for ejecting fluid, and wherein the means for responding further comprises second means for responding to the control signal to selectively initiate a third sequence for enabling the third plurality of means for ejecting fluid and a fourth sequence for enabling the fourth plurality of means for ejecting fluid [0066].

As per claim 43, Hayasaki teaches the means for responding provides the second sequence of address signals independent of the first sequence of address signals (signal generators on either side, two rows each have a 3 bit latch and a 44 bit latch [0059]).

As per claim 48, Hayasaki teaches a method for ejecting fluid from a fluid ejection device, the method comprising: receiving a control signal; initiating a first sequence adapted to enable a first group of firing cells in response to the control signal;

and initiating a second sequence adapted to enable a second group of firing cells in response to the control signal [0064-0066].

As per claim 49, Hayasaki teaches initiating a third sequence adapted to enable a third group of firing cells in response to the control signal; and initiating a fourth sequence adapted to enable a fourth group of firing cells in response to the control signal [0059].

As per claim 51, Hayasaki teaches a method for ejecting fluid from a fluid ejection device, the method comprising: receiving control signals; selectively providing, in response to the control signals, a first sequence of first address signals adapted to enable a first bank of firing cells for activation; and selectively providing, in response to the control signals, a second sequence of second address signals adapted to enable a second bank of firing cells for activation, wherein the second sequence of address signals is selectively provided independent of the first sequence of address signals [0064-0066].

As per claim 52, Hayasaki teaches responding to control pulses in one of the control signals to initiate the first sequence and to initiate the second sequence [0064; 0072].

As per claim 54, Hayasaki teaches receiving control pulses in one of the control pulses and receiving timing pulses within the control pulses [0064-0069]; and responding to control pulses received substantially coincident with timing pulses in series of timing pulses to initiate the first sequence and second sequence [0064-0067].

As per claim 63, Hayasaki teaches the first circuitry is a first bank generator and the second circuitry is a second bank generator (figure 4, elements Block 1 and Block 2).

As per claim 64, Hayasaki teaches the address generator is electrically coupled with both the first group of firing cells and the second group [0059] of firing cells, wherein the first circuitry is coupled to the first group of resistors and not the second group of resistors, and wherein the second circuitry figure 4, elements Block 1 and Block 2) is coupled to the first group of resistors and not the second group of resistors

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 13-15, 42, 44-47, 50, 53, and 55-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayasaki (EP 1128324) in view of Axtell et al. (US 20020093551).

As per claim 13-15, Hayasaki teaches an ejection device wherein the first generator is configured to initiate the second sequence in response to receiving a second control pulse in the control pulse [0064-0066].

Hayasaki does not teach control signals comprising control pulses and a series of timing pulses and the first address generator is configured to initiate the first sequence in response to receiving a first control pulse in the control pulses substantially coincident with a first timing pulse in the series of timing pulses; a second set of control pulses substantially coincident with a second timing pulse in the series of timing pulses; and wherein the first timing pulse and second timing pulse are different timing pulses in the series of timing pulses.

Axtell et al. teaches control signals comprising control pulses and a series of timing pulses and the first address generator is configured to initiate the first sequence in response to receiving a first control pulse in the control pulses substantially coincident with a first timing pulse in the series of timing pulses (Figure 5B, element A_n); a second set of control pulses substantially coincident with a second timing pulse in the series of timing pulses (figure 5B, element A_{n+8}); and wherein the first timing pulse and second timing pulse are different timing pulses in the series of timing pulses (figure 5B, elements A_n and A_{n+8}).

As per claims 42 and 44-47, Hayasaki teaches the fluid ejection device of claim 40; however, it does not teach the means for responding comprises means for responding to one group of timing pulses from a series of timing pulses to provide the

first sequence and is responsive to a second group of timing pulses from the series of timing pulses to provide the second sequence; means for responding comprising means for responding to a series of timing pulses in the control signal to provide the first address signals and second address signals; means for responding to control pulses received substantially coincident with timing pulses in the series of timing pulses to initiate the first sequence and to initiate the second sequence; means for responding to a first control pulse received substantially coincident with a first timing pulse in the series of timing pulses to initiate a first sequence; and means for responding to a second pulse received substantially coincident with a second timing pulse in the series of timing pulses to initiate the second sequence.

Axtell et al. teaches means for responding comprises means for responding to one group of timing pulses from a series of timing pulses to provide the first sequence and is responsive to a second group of timing pulses from the series of timing pulses to provide the second sequence (figure 5B, elements FIRE W and FIRE X); means for responding comprising means for responding to a series of timing pulses in the control signal to provide the first address signals and second address signals (figure 5B, [0055]); means for responding to control pulses received substantially coincident with timing pulses in the series of timing pulses to initiate the first sequence and to initiate the second sequence (figure 5B, [0055]); means for responding to a first control pulse received substantially coincident with a first timing pulse in the series of timing pulses to initiate a first sequence (figure 5B, element A_n); and means for responding to a second

pulse received substantially coincident with a second timing pulse in the series of timing pulses to initiate the second sequence (figure 5B, elements A_{n+8} and Row X_n).

As per claim 50, Hayasaki teaches the method of claim 48, as well as receiving a series of timing pulses [0064-0069]. It does not disclose responding to one group of timing pulses from the series of timing pulses to provide the first sequence; and responding to a second group of timing pulses from the series of timing pulses to provide the second sequence.

Axtell et al. teaches responding to one group of timing pulses from the series of timing pulses to provide the first sequence; and responding to a second group of timing pulses from the series of timing pulses to provide the second sequence (figure 5B, elements W_n; FIRE W; X_n; FIRE X; [0055]).

As per claims 53 and 55-57, Hayasaki teaches the method of claim 51, as well as receiving control pulses in one of the control signals [0064-0066]; receiving a series of timing pulses in the control signals [0064-0069]; responding to a second control pulse received substantially coincident with a second timing pulse in the series of timing pulses to initiate the second sequence [0064-0069]; and responding to a third control pulse [0064-0066].

Hayasaki does not teach responding to a series of timing pulses in the control signals to provide the first address signals and the second address signals; receiving control pulses in one of the control signals; responding to a first control pulse received substantially coincident with a first timing pulse in the series of timing pulses to initiate

the first sequence; receiving a third control pulse substantially coincident with a third timing pulse in the series of timing pulses to set a direction signal.

Axtell et al. teaches responding to a series of timing pulses in the control signals to provide the first address signals and the second address signals (figure 5B, address lines; [0053]); receiving control pulses in one of the control signals [0053]; responding to a first control pulse received substantially coincident with a first timing pulse in the series of timing pulses to initiate the first sequence; receiving a third control pulse substantially coincident with a third timing pulse in the series of timing pulses to set a direction signal (figure 5B, element A_{n+16}).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the fluid ejection device of Hayasaki with the disclosure of Axtell et al. to reduce the amount of external circuitry while producing a high quality printhead.

Claims 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayasaki (EP 1128324) and Axtell et al. (US 20020093551), and further in view of Tabata et al. (JP 6-79873).

As per claims 16-21, Axtell et al. teaches a third control pulse in the control pulses substantially coincident with a third timing pulse in the series of timing pulses (figure 5B, elements A_{n+16} and FIRE Y); wherein the third timing pulse and the first timing pulse are different timing pulses in the series of timing pulses and the third timing pulse and the second timing pulse are different timing pulses in the series of timing

pulses (figure 5B, elements A_n, A_{n+8}, A_{n+16} and FIRE W, X, and Y); a fourth timing pulse in the series of timing pulses (figure 5B, element FIRE Z); the first timing pulse and second timing pulse and the third timing pulse and the fourth timing pulse are different timing pulses in the series of timing pulses (figure 5B, FIRE W, X, Y, Z); the fourth timing pulse (figure 5B, element FIRE Z) follows the third control pulse (figure 5B, element A_{n+16}) and the first timing pulse occurs at a different time tan between the third control pulse and the fourth timing pulse (figure 5B, element FIRE W); and the fourth timing pulse (figure 5B, element FIRE Z) follows the third control pulse (figure 5B, element A_{n+16}) and the first timing pulse and the second timing pulse occur at different times than between the third control pulse and fourth timing pulse (figure 5B, elements FIRE X and FIRE Y).

Neither Hayasaki nor Axtell et al. teach a direction circuit configured to set a first direction signal and a second direction circuit to receive a pulse.

Tabata et al. teaches a direction circuit configured to set a first direction signal (figure 5, element 23); a second direction circuit to receive a pulse (figure 5, element 23 [0011]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method and fluid ejection device of Hayasaki as modified with the direction circuit of Tabata et al. in order to allow for firing elements in different directions to produce a higher quality image.

Claims 27, 28, 31, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayasaki (EP 1128324) in view of Tabata et al. (JP 6-79873).

Hayasaki teaches a third group of timing pulses from the series of timing pulses [0064-0069]; a first and second shift register (figure 3, elements 4' and 8') and shift in a selected direction is based on signals [0059-0062]; a third group of timing pulses and providing signals in response to the third group of timing pulses [0059-0066] Hayasaki also teaches .

Hayasaki does not teach a direction circuit that provides direction signals in response to timing pulses and providing a set of address signals in selected sequences based on the direction signals.

Tabata et al. teaches a direction circuit that provides direction signals in response to timing pulses (figure 5, element 23) and providing a set of address signals in selected sequences based on the direction signals (figure 5; [0011]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method and fluid ejection device of Hayasaki with the direction circuit of Tabata et al. in order to allow for firing elements in different directions to produce a higher quality image.

Claims 58-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayasaki (EP 1128324) in view of Feinn et al. (US 20030071028).

Hayasaki teaches firing cells including a first group of resistors and a second group of resistors (figure 3, element 1, first and second rows); an address generator electrically coupled to the first group of resistors and the second group of resistors (figure 3, elements 4' and 8', first and second rows); first circuitry configured to receive a first group of timing pulses and generate a first set of address signals in response to the timing pulses [0064-0069], the first circuitry connected to the first group and not the second group (two rows, [0059]); a second bank circuitry configured to receive a second group of the timing pulses from the series of timing pulses and generate a second set of address signals in response to the received timing pulses, the second circuitry electrically connected to the second group and not the first group; a first shift register configured to provide first output signals (figure 3, element 4'); a first logic circuit configured to provide the first set of address signals based on the first output signals (figure 3, element 3); a second shift register configured to provide a second output signal (figure 3, element 8'); and the second circuitry comprising a second logic circuit to provide the second set of address signals based on the second output signals (figure 3, element 3)

Hayasaki does not disclose the first or second group of resistors conducting.

Feinn et al. discloses resistors conducting [0088].

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the fluid ejection device of Hayasaki with the disclosure of Feinn et al. in order to provide an easier method of firing ink.

Claims 61 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayasaki (EP 1128324) and Feinn et al. (US 20030071028), and further in view Tabata et al. (JP 6-79873).

Hayasaki and Feinn et al. teach the fluid ejection device of claim 58. Hayasaki teaches a third group of timing pulses [0064-0069]; however, neither teaches a direction circuit configured to receive timing pulses and provide direction signals in response to the received timing pulses.

Tabata et al. teaches a direction circuit configured to receive timing pulses and provide direction signals in response to the received timing pulses (figure 5, element 23; [0011]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method and fluid ejection device of Hayasaki as modified with the direction circuit of Tabata et al. in order to allow for firing elements in different directions to produce a higher quality image.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura E. Martin whose telephone number is (571) 272-2160. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Laura E. Martin

3/13/06

MANISH S. SHAH
PRIMARY EXAMINER